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Device and method for displaying pictograms in a vehicle

*We Claim*  
Patent Claims

1. *SUBA7* A device for displaying pictograms in a vehicle, composed of a control unit and a display unit, in particular an LC display, the control unit controlling the display unit, characterized by the fact that
- a) the display unit is divided into symbol fields (2, 3, 4, 5, 6) which are arranged one next to the other in a row, the control unit only ever displaying one pictogram in each symbol field simultaneously,
  - b) the control unit always displays in a specific symbol field (2) each new pictogram which is to be displayed in the symbol fields (2, 3, 4, 5, 6) which are arranged one next to the other in a row, and displaces by one symbol field the pictograms which have already been displayed, without changing their order,
  - c) a control element (13) is provided with which a coherent section of the pictograms which are arranged one next to the other in a row can be displayed in the symbol fields of the display unit if more pictograms are to be displayed simultaneously than symbol fields which are present on the display unit.

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2. The device as claimed in claim 1, characterized by the fact that the control unit fades in a visual character (14, 15) on the display unit after a pictogram has been displaced out of the visible region of the display unit.

3. The device as claimed in claim 1 of the preceding claims, characterized by the fact that

- a) a timer which the control unit starts when an instruction to delete a pictogram arrives is provided,
- b) the control unit displays a pictogram which is to be deleted, for a retention time, dimensioned by the timer, in that symbol field (2) which is provided for each pictogram which is to be newly displayed, and
- c) after the retention time has expired, the control unit removes the pictogram which is to be deleted from the row of pictograms which is to be displayed.

4. The device as claimed in one of the preceding claims, characterized by the fact that the control element (13) is designed as a rotary actuator, slide, momentary-contact switch or as a combination of these refinements.

5. The device as claimed in one of the preceding claims, characterized by the fact that an audible signal transmitter is provided which is controlled by the control unit and outputs an audible signal if a new pictogram is displayed or a pictogram is to be deleted from the display.

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- a) the pictograms are displayed in symbol fields (2, 3, 4, 5, 6) of the display unit, the symbol fields (2, 3, 4, 5, 6) being arranged one next to the other to form a row of symbol fields,
- b) each pictogram which is to be newly displayed is displayed in a quite specific symbol field (2) of the row of symbol fields until a pictogram with a more recent time priority is to be displayed,
- c) all the pictograms which have already been displayed in the row of symbol fields are displaced by one symbol field when a new pictogram is displayed,
- d) the row of symbol fields (2, 3, 4, 5, 6) which is visible on the display unit is expanded at the start and/or end of the said row in virtual fashion by invisible symbol fields (7, 8, 9, 10), in order to displace pictograms onto these invisible symbol fields (7, 8, 9, 10) if more pictograms are to be displayed than symbol fields (2, 3, 4, 5, 6) which are visible on the display unit are present simultaneously,

e) a section of pictograms which are arranged one next to the other in a row in the visible symbol fields can be displayed on the display unit by means of a control element (13) from the row of symbol fields, in that the row of symbol fields is, for a viewer, apparently is displaced using the control element (13).

7. The method as claimed in claim 6, characterized by the fact that a pictogram which is to be deleted is removed from its location in the row of symbol fields and is displayed in that symbol field (2) which is provided for each pictogram which is to be newly displayed, all those pictograms which are located next to this symbol field being displaced by one symbol field until the gap in the row of symbol fields which is produced by the removal of the pictogram which is to be deleted is closed again.

8. The method as claimed in claim 6 or 7, characterized by the fact that the viewing of a pictogram which is to be deleted can be acknowledged by activating the control element (13), in response to which the pictogram which is to be deleted is immediately removed from the row of symbol fields.

9. The method as claimed in claim 7 or 8, characterized by the fact that the control unit reverses a preceding displacement of the row of symbol fields, in that the pictograms which were last displayed are displayed on the

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symbol fields (2, 3, 4, 5, 6) which are visible in the display unit, together with that pictogram whose message has been canceled, if, at the time when a message was canceled, the pictograms of the latest messages were not represented in the visible symbol fields in the active area of the display unit, because the control element (13) had been activated.

10. The method as claimed in one of the preceding claims 6 to 9, characterized by the fact that a pictogram which is to be deleted and which is displayed in that symbol field (2) which is provided in the row of symbol fields for displaying each pictogram which is to be newly displayed is marked in a way which is distinguishable from the way of representing the other pictograms.

11. The method as claimed in claim 10, characterized by the fact that the marking of a pictogram which is to be deleted consists in an inverted way of representation of its filling-in color and/or background color.

12. The method as claimed in claim 10, characterized by the fact that the marking of a pictogram which is to be deleted consists in outlining the symbol field or putting a bar through the pictogram.

13. The method as claimed in one of the preceding claims 6 to 12, characterized by the fact that the control unit closes the gap in the row of symbol fields which has been produced as a result of the deletion of a pictogram by

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allowing all the pictograms to move on by one symbol field  
with an older time priority.

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